



Pediatric Consultation–Liaison Psychology: Insights and Lessons Learned During the COVID-19 Pandemic

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Abstract

COVID-19 has presented a variety of challenges to the provision of psychology services. In the first month of the pandemic, pediatric consultation–liaison (CL) psychologists reported significant changes in methodology of service delivery (Steinberg et al. in *Clin Pract Pediatr Psychol* 9:1, 2020). To better understand how and if these changes persisted, as well as other emerging trends, a follow-up study examined changes and challenges six months into the pandemic. An anonymous questionnaire assessed topics related to pediatric CL psychology including practice changes, perception of changes, and institutional support. The questionnaire was sent to the APA Society of Pediatric Society’s special interest group listservs. Thirty responses were analyzed. Quantitative results showed participants’ beliefs that telemedicine is equally efficacious to in-person services for outpatient psychological care, but less effective for inpatient care. Participants reported their perception of how institutions supported their safety, psychology trainee safety and training goals, and patient care. Qualitative results demonstrated that most psychologists experienced changes related to their dynamics with medical teams, which included changes in team efficiency, workload, transition, and team collaboration.

Keywords COVID-19 · Pandemic · Consultation–liaison · Pediatric · Telemedicine

Introduction

The novel coronavirus 2019 (COVID-19) was declared a global pandemic by the World Health Organization in March 2020 (World Health Organization, 2020). Prior to the pandemic, nearly all subspecialty areas of medicine had utilized

telemedicine to provide care to patients, though adoption was not widespread and consistent (Hersh et al., 2002). The delivery of care dramatically changed in 2020 when medical providers quickly required alternatives to in-person patient visits due to the risks of COVID-19 transmission (Mann et al., 2020), launching telemedicine to the forefront

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of patient care. The practice of pediatric consultation–liaison (CL) psychology followed this trend (Steinberg et al., 2020). Pediatric CL psychology is a specialized area of psychology distinct from traditional clinical psychology as it focuses on delivering care to medically impacted children in inpatient and outpatient settings (Rutledge et al., 2020). Focuses of clinical intervention often involve working to improve patients' coping and adherence to medical regimens; CL psychologists also typically provide recommendations to interdisciplinary medical teams to further maximize patient and family functioning (Carter et al., 2020). At the beginning of the COVID-19 pandemic in the US, a study of current practices (reported between April 6, 2020 to April 20, 2020) was rapidly done to understand emerging trends (Steinberg et al., 2020). A convenience sample of 51 pediatric CL psychologists reported that prior to the pandemic, they provided nearly 100% of their services face to face; this shifted rapidly in the early weeks of the pandemic as 82.4% of this group of psychologists reported using telemedicine for the majority of their patient care (Steinberg et al., 2020).

Telemedicine, particularly videoconferencing, is an effective avenue for delivery of pediatric behavioral health services (Nelson & Sharp, 2016; Van Allen et al., 2011). Prior systematic reviews of the literature have suggested telemedicine demonstrated efficacy in diagnostic decision making, managing chronic health conditions, and implementing interventions in the medical care field broadly (Hersh et al., 2001, 2002) as well as for psychological services (Penate & Fumero, 2016; Van Allen et al., 2011). In addition to being effective, patient acceptability generally appears to be positive. After the abrupt switch to telemedicine due to COVID-19, patients reported satisfaction with both in-person and virtual visits for medical care (Garcia-Huidobro et al., 2020), with video visit satisfaction even significantly higher than in-person physician visits (Ramaswamy et al., 2020). Other studies revealed that the majority of patients were neutral about using telemedicine platforms (Sammons et al., 2020).

While telemedicine has been found to be an effective and patient-accepted modality for providing psychological services, less research has focused on psychologist satisfaction with telemedicine use. Recent research suggests that during the pandemic, mental health providers viewed telemedicine as positive and impactful (Sklar et al., 2021). This is congruent with previous research that found high levels of both clinician and patient satisfaction with virtual visits (Nelson et al., 2011). When surveyed early in the COVID-19 pandemic, pediatric CL psychologists reported both strengths and challenges regarding the delivery of psychological consultation services via telemedicine (Steinberg et al., 2020).

It is important to note the central role that healthcare institutions and hospital administrators also play regarding responses to the COVID-19 pandemic (e.g., Grimm, 2020; Holthof, 2020). While research is still emerging in

this domain, the COVID-19 pandemic has placed significant burden on and resulted in substantial change within healthcare systems worldwide. Throughout the initial periods of the pandemic, for example, many institutions changed their policies and procedures in order to accommodate the changing landscape of healthcare needs (Penwill et al., 2021). More broadly, research and advocacy efforts have called for improvements in medical systems and policies due to the difficulties experienced during the pandemic (e.g., Metzl et al., 2020). It is important to continue to study pandemic-related institutional changes and needs, particularly in the context of psychology, where less attention has been placed.

The current study aims to further capture practice trends in pediatric CL psychology six months into the pandemic. Through close-ended and open-ended questions, the study examined how practitioners chose to deliver services (i.e., in-person v. telemedicine) and their perceptions of the efficacy and acceptability of telemedicine practices to their patients. An additional focus on in the current study is to examine changing trends in CL psychological care in relation to safety, clinical presenting concerns, training, and interdisciplinary team collaboration.

Methods

The current study is a follow-up to the initial study conducted by Steinberg et al. (2020) but new data were collected at a later time point. Questions were developed by participating members of the American Psychological Association (APA) Division 54 Society of Pediatric Psychology Consultation–Liaison (CL) Special Interest Group (SIG) leadership team, which included licensed psychologists and psychology trainees. Due to the anonymous nature of the questionnaire, it is not known whether participants in this study were the same as those in Steinberg et al. (2020).

The Institutional Review Board of Columbia University Irving Medical Center approved this study. An email was sent to members of special interest groups within the APA's Society of Pediatric Psychology. The email contained a brief description of the study and contained a link to the Qualtrics XM questionnaire (Online Appendix A). A reminder email was sent one week after the initial email was sent. The following special interest groups confirmed that they sent emails to their membership: CL; Complementary and Integrative Medicine; Digital Health; Pediatric Bioethics; Nephrology; Epilepsy; Integrated Primary Care. All individuals (e.g., licensed psychologists, trainees) who dedicated some percentage of their time to providing inpatient pediatric psychology services were eligible to participate. The survey was open between September 14 and 30, 2020, approximately six months into the COVID-19 pandemic. This time frame was chosen to describe CL practice during the time period

of the pandemic in which protocols had been established and maintained, but significant change may still be occurring.

Study questions included demographics; clinical experience and responsibilities; telemedicine frequency; perceived efficacy of telemedicine v. in-person service delivery; perceived acceptance of telemedicine by families; perceived institutional support for psychologists and trainees; change in patient and family needs during pandemic; psychologists' self-care. Free response questions focused on examining participants' experiences with changes in team dynamics, addressing patient needs, training challenges, changes in scopes of practice, as well as long-term implications. Respondents were able to skip questions if desired.

Data were analyzed using measures of central tendency (e.g., mean, percentages) using SPSS Version 26.0. Free response questions were reviewed using thematic analysis, a method for identifying, analyzing, and reporting patterns (themes) within qualitative data. Several themes were identified from the thematic analysis and responses were coded accordingly. Responses were coded by author A.M.G. and reviewed by author N.M.S.

Results

Participants

Thirty individuals met inclusion criteria and participated in the study (response rate is unknown due to distribution to multiple listservs). The majority were female, psychologists, and early career. A smaller subset of respondents identified as psychology trainees ($n=5$, 16.7%). Most participants worked in freestanding children's hospitals providing both inpatient and outpatient services to a variety of medical populations and ages (Table 1). The demographics of respondents are reflective of the Society of Pediatric Psychology membership demographics (i.e., mostly female, psychologists, and psychology trainees).

Quantitative Data Analysis

Participants were asked identical questions about inpatient and outpatient service delivery.

Inpatient Psychology Service Delivery

Participants reported that they used telemedicine for an average of 27.24% (SD = 42.2) of inpatient visits. The decision to see patients via telemedicine was based on (multiple reasons could be selected): clinician decision due to particular presenting problem/need (36.7%); institutional policy/preferences (13.3%); "other" factors (6.7%); and patient/family preference (3.3%). Some reported

Table 1 Characteristics of participants

Variable	<i>N</i>	%
Gender		
Female	27	90.0
Male	3	10.0
Profession		
Psychologist	25	83.3
Psychology Trainee	5	16.7
Practice Setting		
Free-standing children's hospital	24	80.0
Pediatric service in general hospital	6	20.0
Populations Typically Served [^]		
All populations	16	53.3
Accidental trauma	19	63.3
Adolescent Medicine	17	56.7
Allergy & immunology	9	30.0
Cardiology	13	43.3
Developmental Pediatrics	10	33.3
Endocrinology	18	60.0
GI	19	63.3
Hem/Onc/BMT	14	46.7
Neonatology	5	16.7
Neurology	18	60.0
Nephrology	12	40.0
Palliative Care	11	36.7
Physical Medicine & Rehab	15	50.0
PICU	18	60.0
Primary psychiatric conditions	12	40.0
Pulmonology	15	50.0
Rheumatology	15	50.0
Urology	11	36.7
Ages Typically Treated ^a		
Newborn	8	26.7
0–5 Years	27	90.0
6–12 Years	30	100.0
13–17 Years	30	100.0
18–21 Years	29	96.7
21 Years and older	20	66.7
	M + SD	
Years Licensed	6.16 + 5.61	
Percentage of time		
Percent time inpatient	46.90 + 35.28	
Percent time outpatient	38.55 + 34.30	

^aMultiple responses could be chosen

all patients were seen in person (40.0%). The majority of participants ($n=20$) perceived that seeing inpatients in-person was more effective than telemedicine, while 6 reported in-person and telemedicine were equally effective. Participants' perception of family/patient acceptance of telemedicine on a scale of 1 (not accepting) to 10 (very

accepting) was an average of $6.92 + 2.36$ suggesting moderate levels of acceptance.

Outpatient Psychology Service Delivery

Participants reported that they used telemedicine for an average of 60.86% ($SD = 35.70$) of outpatient visits. They reported reasons for seeing outpatients via telemedicine included (multiple reasons could be selected): patient/family preference (43.4%); “other” factors (20.0%); institutional policy/preferences (16.7%); and clinician decision based on presenting problem/need (13.3%). A minority (3.3%) of participants reported seeing all outpatients in-person. In outpatient settings, more participants perceived in-person and telemedicine were equally effective ($n = 17$), while 11 perceived in-person services were more effective. Participants’ perception of family/patient acceptance of telemedicine on a scale of 1 (not accepting) to 10 (very accepting) was an average of $8.78 + 0.93$ suggesting high acceptance.

Perception of Presenting Concerns

Participants reported observing increased rates of psychological concerns during the COVID-19 pandemic, particularly for anxiety and depression. Increases in clinical severity (e.g., self-harm, suicidality) and caregiver coping concerns were also reported (Table 2).

Implementation of Health Service Delivery Modality Changes

Participants were asked if their feedback was solicited about changes to the modality of services during the pandemic. Many reported that only those in leadership roles (with the meaning of “leadership” open to participant interpretation) were asked (20%); all or most faculty/staff were asked (30%); or all or most faculty, staff, and trainees were asked (13.3%). The largest group of participants noted that to their knowledge, they were not asked about their perception of changes to the modality of service (33.3%).

Participants rated their perceptions of their hospitals’ adaptation to the pandemic on several factors on a scale of 1 (low) to 10 (high). They rated their hospitals’ flexibility an average of 7.03 ($SD = 2.11$), and their support and prioritization of safety an average of 6.70 ($SD = 2.28$). They rated their support, and prioritization of patient/family needs an average of 7.77 ($SD = 2.03$). Those identifying as trainees and supervisors responded to questions on the training environment during the pandemic and reported an average, 7.86 ($SD = 2.30$) the hospital supported and prioritized trainees’ safety and 7.25 ($SD = 2.03$) supported and prioritized trainees’ learning needs.

Table 2 Participant perceived changes in presenting complaints since onset of COVID-19

Presenting complaint	<i>n</i>	%
Accidental injuries		
Perceived increase	5	16.7
No perceived increase	24	80.0
Anxiety		
Perceived increase	26	86.7
No perceived increase	4	13.3
Caregiver coping concerns		
Perceived increase	23	76.7
No perceived increase	7	23.3
Clinical severity increases		
Perceived increase	20	66.7
No perceived increase	10	33.3
Depression		
Perceived increase	22	73.3
No perceived increase	8	26.7
Non-adherence		
Perceived increase	9	30.0
No perceived increase	20	66.7
Somatic symptoms		
Perceived increase	12	40.0
No perceived increase	18	60.0
Substance use		
Perceived increase	5	16.7
No perceived increase	25	83.3

3. Participant stressors since the onset of COVID-19

Practice Changes

The largest group (46.7%) reported stable productivity, some reported higher productivity (33.3%), others reported lower productivity (16.7%), and one (3.3%) was unsure of productivity changes since the start of the pandemic. When asked whether they would face serious repercussions (e.g., salary cuts, potential job loss) due to lower productivity, the respondents were fairly split between feeling that they would not (33.3%), were unsure (36.7%), or anticipated they would (26.7%).

Personal Experiences Related to COVID-19. The majority of participants (83.3%) reported higher levels of stress than prior to the pandemic. The most endorsed sources of stress (multiple could be chosen) included work-related stress (93.3%); limited ability to engage in self-care (66.7%); concerns related to elderly family members (43.3%); childcare issues (36.7%); personal/family health issues (36.7%); and financial stress (16.7%) (Table 3).

Table 3 Participant stressors since the onset of COVID-19

Stressor	<i>n</i>	%
Child care issues		
Experienced	11	36.7
Not experienced	19	63.3
Elderly family member concerns		
Experienced	13	43.3
Not experienced	17	56.7
Financial stress		
Experienced	5	16.7
Not experienced	25	83.3
Limited ability to engage in self-care		
Experienced	20	66.7
Not experienced	10	33.3
Personal/family health issues		
Experienced	11	36.6
Not experienced	19	63.3
Work-related stress		
Experienced	28	93.3
Not experienced	2	6.7

Table 4 Qualitative themes

Themes	Subthemes
Changes in Medical Team Dynamics	Team efficiency and collaboration
	Workload
	Transition to telemedicine
	No dynamic changes
Perceptions of Prioritization of Psychology During COVID-19	Prioritized
	Underutilized
Practice Changes Regarding Training	Telemedicine for a majority of clinical training experiences
	Prematurely completing externships
Changes in Scope of Practice	Increased leadership
	Increased caseload
Long-Term Clinical Implications	Ongoing use of telemedicine
	Improved access
	Flexibility
	Increased need

Qualitative Data Analysis

Themes from the free response questions included changes in medical team dynamics, perceptions of prioritization of psychology, practice changes regarding training, changes in scope in practice, and long-term implications as a result of COVID-19 pandemic (Table 4).

Changes in Medical Team Dynamics as a Result of the COVID-19 Pandemic

Participants reported on the changes in dynamics within medical teams as a result of the pandemic. Themes included: (a) team efficiency and collaboration, (b) workload, and (c) transition to telemedicine.

In terms of team efficiency, participants noted fewer opportunities to collaborate with medical teams and provide “curbside” consultation. They experienced limited chances to have face-to-face conversations, which may have led to fewer opportunities to consult on other relevant cases. Participants also noted a reduction in communication among teams, specifically fewer interactions, fewer opportunities for liaison work, and feeling less connected to team members. Additionally, some participants reported limited communication from medical team leadership, as well as difficulties feeling like a member of a team. One participant reported that “pre-COVID-19, care felt more interdisciplinary or even transdisciplinary. However, since COVID-19, I feel that care has become less integrated.”

In contrast, many noted an increase in medical team collaboration. One participant noted that “people have pulled together and [have been] working as a team very well during COVID.” Participants also noted that medical teams had been more flexible about the availability of consultants, engaged in collaboration to complete consults, and demonstrated greater cooperation in decision making.

Participants observed changes in their teams' workload. Several experienced an increase in their caseloads related to the need to serve both inpatients in-person and outpatients through telemedicine. Specifically, a participant noted “we are seeing [two] concurrent outpatient clinics at once (i.e., in-person and telemedicine) so in some ways there is more acceptance from medical teams that it will be important to prioritize [which] psychosocial [needs] should be addressed due to the increased load and no increases in staff.”

Also noted by participants, there were difficulties experienced by the medical team leadership in effectively leading the transition to telemedicine and communicating concerns for patient and provider safety. One participant noted “leadership has not been supportive of telemedicine and efforts to improve patient and provider safety. Universal masking is not consistently adhered to.” Another participant noted tension within the medical leadership team due to difficulties transitioning to telemedicine and staff feeling unsafe when seeing patients' in-person.

Interestingly, some participants reported no dynamic changes within the medical team unit. One participant reported “no sustained changes in dynamics noted since this is the new normal of mixed telehealth.” Others noted a brief adjustment period as a result of moving to telemedicine, yet

no overall longer-term changes within the medical teams were observed.

Perceptions of Prioritization of Psychology During COVID-19

Participants were asked about whether they felt psychological services were prioritized with regard to the goals of care for patients during the COVID-19 pandemic. The following themes were reported via free-text responses: (a) prioritized and (b) underutilized. One participant reported “medical teams seem to have increased interest in psychology involvement for medical admits.” This appeared to be directly related to an increase in the need and severity of cases in light of family struggles and child psychiatric conditions becoming exacerbated as a result of the COVID-19 pandemic (Patrick et al., 2020).

In contrast, others noted that there was an underutilization of, or no change in, psychological services. Specifically, they noted that fewer consults were being requested and described feeling less integrated into the clinical flow of patient care. One participant reported “I think it's still being under-prioritized. Any member of our medical team (physicians, nurse practitioners, nurses, physical therapy) would say mental health is important; however, it's been hard to find ways to include psychology in clinical flow in a collaborative manner.” However, others reported no change in the prioritization of psychological services during the pandemic.

Practice Changes Around Training

Participants were asked to share some of the changes that have occurred in psychology training activities in their setting (i.e., as it relates to formalized training programs for psychology practicum students/externs, predoctoral interns, and/or postdoctoral fellows, regardless of whether the participant was a trainee or licensed attending supervisor). Overall, the most significant themes included (a) transitioning to telemedicine for a majority of the clinical training activities (e.g., supervision, journal clubs, consults, telemedicine training, didactics, supervision) and (b) some students prematurely completing their externships/practicum so that more advanced trainees (e.g., postdoctoral fellows) could be present for in-person care.

Notably, pediatric CL psychologists did make efforts to include trainees in their telemedicine consults: “I have been using virtual platforms to have trainees with me during in-person consults, especially when they are just observing a new consult.” Others reported that training opportunities initially stopped for some trainees (i.e., conducting consults and testing): “...we basically had all psychology trainees stop direct patient care and they did not engage in telemedicine because the priority was for licensed providers

to get onto the telemedicine platform. With the new academic year, psychology trainees are now doing therapy via telemedicine.”

Changes in the Scope of Practice

Participants described two predominant changes in their scope of practice. The following themes were reported via free-text responses: (a) an increase in leadership opportunities and (b) an increase in caseload. Several participants reported a shift into a leadership role within their setting, including assisting in the development of telemedicine procedures for CL services and helping to promote COVID-19 content for the hospital: “[the] department has been asked to participate in more media interviews and produce content for the hospital on COVID-19 as related to psychological impact and stress.” Several other participants noted an increase in their caseload (i.e., seeing patients outside of their typical rotations). One participant reported providing support for frontline staff and covering other patient populations that did not have access to psychology services.

Long-Term Implications for Pediatric CL Psychology Practice

Participants were asked about the long-term implications to the practice of CL psychology as a result of COVID-19. Participants reported four predominant implications: (a) ongoing use of telemedicine, (b) improved access, (c) flexibility in care, and (d) increased demand. The most commonly reported implication was the ongoing use of telemedicine post-COVID-19: “I anticipate keeping a significant portion of my caseload with telehealth as it is [the patients'] stated preference.” Several other participants reported that they anticipated offering telemedicine as an option for clinical services, especially for outpatient services.

Similarly, participants also indicated that with the ongoing use of telemedicine, access to psychological services would improve for communities that are often underserved: “I'm hopeful for a continued ability to use tele[medicine] for families that live in rural areas or have difficulties with transportation. It really has increased access to care.” Other participants noted the flexibility of modalities of care that allowed more families to benefit from psychological services independent of transportation or scheduling considerations. Overall, participants indicated that telemedicine was useful and improved patient access to care.

Participants also spoke about flexibility as a result of changes made to pediatric CL psychology practice. Specifically, they noted that having the flexibility of working from home largely benefited both the practitioner and patient: “I work from home when I can, and come into the hospital only when I have new consults or consults to follow-up with. So rather than working my typical 8 to 5, I come in a little later

in the mornings (when patients are awake) and can leave as soon as I have seen all my patients.”

Lastly, participants noted the continual increase in the need for telemedicine services. Specifically, participants anticipated a large increase in services due to patient volume increases and the ability to offer telemedicine services: “more telehealth services. More clients presenting with challenges due to health and financial reasons as well more stressors in general leading to more need for therapy.”

Discussion

The objectives of this study were to expand on the previous research related to initial, early changes in pediatric CL psychology practices due to the COVID-19 pandemic, as well as to capture the experiences of CL psychology providers who implemented telemedicine services within inpatient and outpatient healthcare settings six months into the global pandemic (Steinberg et al., 2020). The initial survey discovered that CL psychology services could be modified and that patients were perceived to be satisfied overall with the transition to virtual treatment. Survey results from this study approximately six months into the pandemic continue to support initial findings within inpatient and outpatient practice.

Pediatric Psychology Practice Changes

Given the leading strategy of social distancing and isolation as a mechanism for managing the global outbreak of COVID-19, healthcare providers have been required to quickly adopt other methods of clinical service delivery across all settings. Our results showed that while pediatric inpatient CL psychologists rapidly pivoted to providing nearly all care via telemedicine at the start of the pandemic (Steinberg et al., 2020), a minority were still providing virtual inpatient consults six months later.

From an outpatient perspective, most respondents indicated that they were continuing to provide a good proportion of outpatient care virtually. They also reported that telemedicine continued to be a viable and effective method of treatment and was as efficacious as in-person services. These results were consistent with previous reviews indicating efficacy of telemedicine services generally (e.g., Hersh et al., 2001, 2002), as well as telemedicine psychological services (Penate & Fumero, 2016; Van Allen et al., 2011). Not surprisingly, respondents expressed interest in continuing to offer virtual therapy modalities in the future in order to offer families additional choices in how they receive care. Patient acuity and presenting problems

were factors that contributed to the decision to primarily engage in in-person clinical care. As the authors discussed in the initial iteration of this study (Steinberg et al., 2020), patients with particular presentations (e.g., acute safety concerns, end of life discussions) were likely a better fit for traditional in-person consultation.

Family perception and preference likely impacted the type of service delivery offered in different settings. Respondents indicated that telemedicine was less preferred by families of inpatients than outpatients. Interestingly, results indicated a potential trend that families were not frequently provided with a choice of type of services preferred (telemedicine or in-person). Thus, while patients and their families may have preferences about the type of service received, there may be missed opportunities for collaboration if families are not included in these decisions. Family, as well as psychologist preference, may play stronger roles in deciding whether to offer in-person or telemedicine services inpatient. In light of psychologists reporting that services were less efficacious virtually, more quantitative data are needed to determine whether families receiving services inpatient also feel similarly.

There were many potential factors that may have contributed to the rationale for why most psychologists in our study had returned to in-person care for their inpatients, in contrast to the continuing outpatient modality shift. First, the efficacy of telemedicine appeared to be related to the setting in which it was provided. For example, while a majority of psychologists expressed the belief that telemedicine and in-person modalities were equally efficacious in an outpatient setting, this perception did not hold true for inpatient-based clinical care. This discrepancy in respondents' perceptions likely spoke to the unique nature of inpatient work and the ease of in-person collaboration and communication with the medical teams, two hallmarks of CL psychology (Carter & von Weiss, 2005). These viewpoints may have been the catalyst for psychologists seeing inpatients more frequently in-person during the pandemic compared to outpatients and for the shift back to in-person care. It is still not clear whether on an objective level, there were differences in efficacy of in-person versus telemedicine services for inpatient CL psychology.

Other explanations for inpatient versus outpatient modality differences may have existed, such as patient acuity, level of care coordination required, hospital policy, consulting physician preference, and/or family preference. Specifically, many respondents noted that medical team leadership was less flexible than would be preferred in accepting telemedicine adaptations of clinical services. This suggests that psychologists may have returned to in-person clinical care sooner in order to follow along with the culture of their hospital.

Perception of Institutional Support and Work-Related Stress

Undoubtedly, the COVID-19 pandemic has caused institutions, medical departments, psychology departments, and individual providers to consider new factors in delivering high-quality psychological care to pediatric patients and families. Hospitals' decisions about how to respond to governmental calls for lockdowns, for instance, might have posed a different meaning to psychologists at different institutions. Notably, respondents' generally positive experiences and perceived support from institutional leadership spoke to an important outcome of the COVID-19 pandemic. Research has highlighted leadership support as a buffer against burnout. This support may have been particularly important during a global pandemic (American Institute of Stress, 2020; O'Connor et al., 2018).

Despite this, nearly all respondents indicated that since the start of COVID-19 they had experienced a significant increase in work-related stress, which coincided with anecdotal reports of increasing patient symptom severity (e.g., increased anxiety and depression, as well as more frequent acute safety concerns) that had been recently reported in the literature (e.g., Patrick et al., 2020). As previously noted, a significant risk factor of cumulative stress is burnout. Burnout has a number of personal and professional consequences, including increased risk of emotional exhaustion, depression, substance abuse, and PTSD (American Institute of Stress, 2020). In studies of physicians experiencing burnout, higher rates of medical errors and lower patient-provider satisfaction scores had been noted as compared to those not experiencing burnout (Patel et al., 2018). In our study, many respondents reported a limited ability to engage in self-care, which was concerning considering that self-care had been found to be an effective buffer to mitigate the risks of stress and burnout (Coaston, 2017). Past research demonstrated that just over 40% of pediatric inpatient CL psychologists experienced burnout some, most, or all of the time; trainees were found to experience burnout at lower rates (Kullgren et al., 2015). In the current study, perceptions of trainees' ability to engage in self-care were not assessed, but as a whole, respondents generally expressed trainees' safety and training needs were well prioritized.

Overall, psychologists believed that their safety was well prioritized by their institutions and telemedicine was well received. It is possible that most institutions prioritized the safety of their employees over family preference for treatment modality (in-person v. telemedicine), particularly when it appeared that satisfaction was already high for telemedicine services. Sharing the findings of the potential trends of the present study and the positive perspective of telemedicine services during the COVID-19 pandemic can have important implications for future psychological treatment

by allowing for changes and flexibility within psychological treatment care models and can serve as helpful data for managed healthcare.

Limitations

This study had several limitations. First, there were sampling concerns within this study. The number of respondents was likely significantly lower than the actual number of pediatric CL psychologists, and we were unable to quantify the total number of psychologists who received the survey. In the first iteration of this study, Steinberg et al., (2020), 51 psychologists and trainees participated, also representing a relatively small sample size as compared to the number of clinicians who likely identify as pediatric CL psychologists. Furthermore, the results of this survey suggested high burnout and increased psychologist's workload, which may have negatively impacted the ability to respond to the survey. Thus, if this study was repeated, allowing additional response time could yield a more representative and larger sample, which may draw more significant results and conclusions. In addition, there undoubtedly were psychologists who conducted pediatric CL psychology who were not members of the Society of Pediatric Psychology; thus, the results obtained from this study may not have been generalizable to all pediatric psychologists conducting CL work.

Second, coinciding with sample limitations is response bias. Given local and federal changes to COVID-19 protocols and procedures with treatment implementation, survey questions may have lacked relevance for certain providers, thus, reducing response rates. In particular, this may have been the case for providers who resided in states that had fewer community and institutional restrictions. It is also likely that this influenced who responded to the initial survey distributed at the beginning of the pandemic versus the current survey.

Third, it was notable that questionnaire items examining perceived efficacy of treatment modalities (i.e., telemedicine v. in-person) were subjective and did not have any specific anchors to gauge treatment success or lack thereof. Likewise, when assessing family preferences, the questionnaire assessed psychologists' subjectivity of family acceptance; providers did not use a behavioral measure nor did they ask patients and families for their feedback and/or opinions on treatment modalities.

Lessons Learned and Future Directions

The COVID-19 pandemic has brought unprecedented challenges to society. Within the field of pediatric psychology and specifically, the practice of pediatric CL psychology, it is clear that many practice changes occurred during the

COVID-19 era in order to adapt to pandemic needs, including the shift to telemedicine for many providers. While these transitions in practice presented numerous challenges, they provided many benefits including opportunities for increased flexibility and access for many pediatric patients and their families. However, it is yet to be seen how these findings at 6 months into the COVID-19 pandemic will impact pediatric CL services in the future. While CL psychologists were very nimble in the transition to telemedicine platforms for direct patient care, psychologists in this study transitioned back quickly to standard face-to-face modalities likely driven by increased knowledge about the virus and improved access to PPE. Future research to explore the efficacy of virtual psychological care for pediatric inpatients as well as potential strategies to increase the effectiveness of these interventions will be crucial moving forward. Research that directly addresses patient and family satisfaction of telehealth provision for inpatient pediatric psychology care is also needed as little is understood about how this modality of care delivery is received by pediatric inpatients. A better understanding of the efficacy and reception of virtual care could lead to increased access to care, particularly as many hospital systems are experiencing more admissions for youth with mental health concerns which has the potential to significantly tax existing CL services (Leith et al., 2022; Monroe et al., 2022). Thus, psychologists should continue to assess the advantages and disadvantages of returning to pre-pandemic modalities of care and consider approaches that maintain or increase care to underserved populations. In future pandemics and crises, particularly those in which face-to-face contact presents a risk, psychologists can continue to serve important roles within medical teams and are well positioned to advocate for patient needs. It continues to be important for psychologists to be involved in advocacy at a policy level, such as APA's Advocacy Staff and Advocacy Coordinating Committee, which can help ensure that alternative modalities of in-person care (e.g., telemedicine services) are reimbursed and feasible to continue. Self-care and institutional protection/support are also important topics to consider for future research; in our study, most participants indicated that they felt well-supported by their institution, yet were still experiencing high levels of burnout and stress. As we move further away from the initial crisis response of the pandemic future, it will be important for research to explore the longer-term impact of this crisis on the well-being of the CL workforce.

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Code Availability Content analysis was used to analyze qualitative data.

Declarations

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Consent to Participate Prospective participants were informed survey study is voluntary. They were informed that IRB approval was attained.

Consent for Publication All authors agree for data to be published.

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